

Work Order ID 93337

\*93337\*

Page 1

November-15-12 11:43:08 AM

Item ID: 647.7919

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Shim

Start Date: 11/15/12 Start Qty: 3.00

\*3\*

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 3.00

\*3\*

Customer:

Reference:

Approvals: Process Plan: M45 Date: 12-11-12 Tooling:

Date:

Run Start

\*NR1\*

QC: Date: SPC (Y/N):

Date:

Stop

\*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description   | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr                       | Revision Nbr   |                      |         |        |              |               |               |                  |                |
| 647.7900                       | N/C  |                      |         |        |              |               |               |                  |                |
| 110                            |  | 0.00                 |         |        |              |               |               |                  |                |
| *110*                          |  |                      |         |        |              |               |               |                  |                |
| Waterjet                       | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| FLOW CNC Waterjet              | 1-Cut as per Dwg/<br>Dwg Rev: <u>N/C</u><br>Prog Rev: <u>N/C</u> |                      |         |        |              |               |               |                  |                |
| 2024 .020                      | 2-Deburr if necessary  |                      |         |        |              |               |               |                  |                |
| 120                            | QC2- Inspect parts off machine FAI/FAIB                          | 0.00                 |         |        |              |               |               |                  |                |
| *120*                          |  |                      |         |        |              |               |               |                  |                |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |

3 0 Jn 12-11-12

3 0 Jn 12-11-12

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION                                       |   | AGAINST DEPARTMENT/PROCESS                           |  |  |   |  |  |                                 |  |  |   |  |
|--|------|------|---|---|--|--|--|---|--|--|---------------------------------|--|--|---|--|
|  |      |      | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/>  | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> | Crosstube<br>Small Fab<br>Finishing<br>Composite | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/>  | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> | Engineering<br>Quality<br>Other |  |  |   |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or Non-conformance   |  | Initial Chief Eng  | Action Description                               |   | Sign & Date  | Verification   | QC Inspector                    |  |  |   |  |
| Doc/Data   |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Equip/Tooling  |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Operator   |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Material   |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Setup  |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Other  |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Process  |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Supplier   |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Training   |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| Unapproved   |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| FAULT CATEGORY   |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |  |  |  | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |  |                                 | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled |  |
|  |      |      |   |   |  |  |  |   |  |  |                                 |  |  | <input type="checkbox"/> Other  |  |
|  |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
|  |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |
|  |      |      |   |   |  |  |  |   |  |  |                                 |  |  |   |  |

Work Order ID 93337

\*93337\*

Page 2

November-15-12 11:43:08 AM

Item ID: 647.7919

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Shim

Start Date: 11/15/12 Start Qty: 3.00

\*3\*

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 3.00

\*3\*

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

| Sequence ID/<br>Work Center ID    | Operation<br>Description  | Set Up/<br>Run Hour | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp     |
|-----------------------------------|---|---------------------|---------|--------|--------------|---------------|---------------|------------------|--------------------|
| 130<br><b>*130*</b><br>QC         | QC8- Inspect parts - second check   | 0.00<br>15<br>9-89  |         |        |              |               | 3             |                  |                    |
| Quality Control                   | Memo  | 0.00<br>12-11-26    |         |        |              |               |               |                  |                    |
| 140<br><b>*140*</b><br>Outsource4 | Outsource process-Anodize per QSI017 4.1.10.1                                       | 0.00                |         |        |              |               |               |                  | <u>12-11-26</u>    |
| Outsource process - Anodize       | Memo<br>ISSUE P/O <u>18506</u><br>HARD ANODIZE, COLOR BLACK AS PER DWG.(SEE NOTE 2) | 0.00                |         |        |              |               |               |                  |                    |
| 150<br><b>*150*</b><br>Packaging  | Receive & Inspect for Damage & Mat'l Certs  | 0.00                |         |        |              |               |               |                  | <u>Packaging 6</u> |
| Packaging                         | Memo  | 0.00                |         |        |              |               |               |                  |                    |

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      | DISPOSITION                                       |  | AGAINST DEPARTMENT/PROCESS   |  |  |  |  |                                 |   |
|--|------|---|--|--|--|--|--|--|---------------------------------|---|
|  |      | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab   | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> | Crosstube<br>Small Fab<br>Finishing<br>Composite | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier   | Engineering<br>Quality<br>Other |   |
| Root Cause   | Date | Step  | Qty  | Description of work order update or Non-conformance  | Initial Chief Eng  | Action Description                               | Sign & Date  | Verification   | QC Inspector                    |   |
| Doc/Data   |      |   |  |  |  |  |  |  |                                 |   |
| Equip/Tooling  |      |   |  |  |  |  |  |  |                                 |   |
| Operator   |      |   |  |  |  |  |  |  |                                 |   |
| Material   |      |   |  |  |  |  |  |  |                                 |   |
| Setup  |      |   |  |  |  |  |  |  |                                 |   |
| Other  |      |   |  |  |  |  |  |  |                                 |   |
| Process  |      |   |  |  |  |  |  |  |                                 |   |
| Supplier   |      |   |  |  |  |  |  |  |                                 |   |
| Training   |      |   |  |  |  |  |  |  |                                 |   |
| Unapproved   |      |   |  |  |  |  |  |  |                                 |   |
| FAULT CATEGORY   |      |   |  |  |  |  |  |  |                                 |   |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |   |  | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |  |  | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Other |                                 | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled |

**Work Order ID 93337**

\*93337\*

Page 3

November-15-12 11:43:08 AM

Item ID: 647.7919

Accepted

\*N900040100\*

Setup S

start \*NS1\*

**Revision ID:**

Stop \*NS2\*

**Item Name:** Shim

**Start Date:** 11/15/12      **Start Qty:** 3.00

\*3\*

**Cust Item ID**

**Required Date:** 12/07/12      **Req'd Qty:** 3.00

\*2\*

**Customer:**

### **Reference:**

### **Approvals:**      **Process Plan:**

**Date:** \_\_\_\_\_

Tooling

Date:

### Run Start

\*NR1\*

**QC:**

**Date:**

**SPC (Y/N)**

Date:

## Stop

\*NR2\*

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION                                       |   | AGAINST DEPARTMENT/PROCESS                       |   |                                 |              |              |  |  |   |  |                                |  |
|--|------|------|---|---|--|---|---------------------------------|--------------|--------------|--|--|---|--|--------------------------------|--|
|  |      |      | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab  | Crosstube<br>Small Fab<br>Finishing<br>Composite | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier  | Engineering<br>Quality<br>Other |              |              |  |  |   |  |                                |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or Non-conformance   | Initial Chief Eng                                | Action Description  | Sign & Date                     | Verification | QC Inspector |  |  |   |  |                                |  |
| Doc/Data   |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Equip/Tooling  |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Operator   |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Material   |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Setup  |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Other  |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Process  |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Supplier   |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Training   |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| Unapproved   |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| FAULT CATEGORY   |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |  | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |                                 |              |              | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled |  |                                |  |
|  |      |      |   |   |  |   |                                 |              |              |  |  |   |  | <input type="checkbox"/> Other |  |
|  |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
|  |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |
|  |      |      |   |   |  |   |                                 |              |              |  |  |   |  |                                |  |

Work Order ID 93337

\*93337\*

Page 4

November-15-12 11:43:08 AM

Item ID: 647.7919

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Shim

Start Date: 11/15/12 Start Qty: 3.00

\*3\*

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 3.00

\*3\*

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

| Sequence ID/<br>Work Center ID               | Operation<br>Description                                    | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp                                     |
|--|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|--|
| 190<br><b>*190*</b><br>Packaging             | Identify as per dwg & Stock Location: <u>1370</u>           | 0.00                 |         |        |              |               |               |                  | <u>11/10/93</u>                                    |
| Packaging                                    | Memo  | 0.00                 |         |        |              |               |               |                  |  |
|  | ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV*** |                      |         |        |              |               |               |                  |  |
| 200<br><b>*200*</b><br>QC<br>Quality Control | QC21- Final Inspection - Work Order Release                 | 0.00                 |         |        |              |               |               |                  | <u>13/11/10/08</u><br><u>MF</u><br><u>13-01-09</u> |
|  | Memo  | 0.00                 |         |        |              |               |               |                  |  |

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION                                       |  |  | AGAINST DEPARTMENT/PROCESS                                       |                                 |              |              |  |  |
|--|------|------|---|--|--|--|---------------------------------|--------------|--------------|--|--|
|  |      |      | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab   | Crosstube<br>Small Fab<br>Finishing<br>Composite | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier | Engineering<br>Quality<br>Other |              |              |  |  |
| Part No. _____<br><br>NCR No. _____  |      |      |   |  |  |  |                                 |              |              |  |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or Non-conformance  | Initial Chief Eng                                | Action Description   | Sign & Date                     | Verification | QC Inspector |  |  |
| Doc/Data   |      |      |   |  |  |  |                                 |              |              |  |  |
| Equip/Tooling  |      |      |   |  |  |  |                                 |              |              |  |  |
| Operator   |      |      |   |  |  |  |                                 |              |              |  |  |
| Material   |      |      |   |  |  |  |                                 |              |              |  |  |
| Setup  |      |      |   |  |  |  |                                 |              |              |  |  |
| Other  |      |      |   |  |  |  |                                 |              |              |  |  |
| Process  |      |      |   |  |  |  |                                 |              |              |  |  |
| Supplier   |      |      |   |  |  |  |                                 |              |              |  |  |
| Training   |      |      |   |  |  |  |                                 |              |              |  |  |
| Unapproved   |      |      |   |  |  |  |                                 |              |              |  |  |
| FAULT CATEGORY   |      |      |   |  |  |  |                                 |              |              |  |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |  |                                 |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><input type="checkbox"/> Other   |  |  |                                 |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled  |  |  |                                 |              |              |  |  |

# Picklist Print

Page 1

November-15-12 11:43:08 AM

Work Order ID: 93337

Parent Item: 647.7919

Parent Item Name: Shim

Start Date: 11/15/12

Required Date: 12/07/12

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP REV:A 12.10.03 NEW ISSUE DD VERF:JFS

| Component Item ID/<br>Item Name  | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty     | Qty<br>Issued | Date<br>Issued | Status |
|----------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|------------------|---------------|----------------|--------|
| M2024T3S.020<br>Alum. sheet .020 |                        | Purchased     | No          |                     |                  | 110             | sf                 | 53.0000        | 0.026       | 0.0821053<br>0.1 |               | Jm12-11-25     |        |

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| MAT022   | 53      |          |
| 103504   | 13      |          |
| 117684   | 40      | 117684   |

NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: Date:

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____            |         |      | DISPOSITION                                       |  |  | AGAINST DEPARTMENT/PROCESS                                       |                                 |              |              |  |  |
|------------------------------|---------|------|---|--|--|--|---------------------------------|--------------|--------------|--|--|
|                              |         |      | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab | Crosstube<br>Small Fab<br>Finishing<br>Composite | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier | Engineering<br>Quality<br>Other |              |              |  |  |
| Part No. _____               |         |      |   |  |  |  |                                 |              |              |  |  |
| NCR No. _____                |         |      |   |  |  |  |                                 |              |              |  |  |
| Root Cause                   | Date    | Step | Qty   | Description of work order update or Non-conformance  | Initial Chief Eng                                | Action Description   | Sign & Date                     | Verification | QC Inspector |  |  |
| Doc/Data                     |         |      |   |  |  |  |                                 |              |              |  |  |
| Equip/Tooling                |         |      |   |  |  |  |                                 |              |              |  |  |
| Operator                     |         |      |   |  |  |  |                                 |              |              |  |  |
| Material                     |         |      |   |  |  |  |                                 |              |              |  |  |
| Setup                        |         |      |   |  |  |  |                                 |              |              |  |  |
| Other                        |         |      |   |  |  |  |                                 |              |              |  |  |
| Process                      |         |      |   |  |  |  |                                 |              |              |  |  |
| Supplier                     |         |      |   |  |  |  |                                 |              |              |  |  |
| Training                     |         |      |   |  |  |  |                                 |              |              |  |  |
| Unapproved                   |         |      |   |  |  |  |                                 |              |              |  |  |
| FAULT CATEGORY               |         |      |   |  |  |  |                                 |              |              |  |  |
| Landing Gear                 |         |      |   | General  |  |  |                                 |              |              |  |  |
| Bending                      | General |      |   | Bend   | Grain  | Ovalized   | Pressure/Forced                 |              |              |  |  |
| Centre Not Concentric to O/S |         |      |   | BOM/Route  | Hardware   | Over/Under tolerance   | Temperature/Cure                |              |              |  |  |
| Cracks                       |         |      |   | Broken/Damaged                                       | Inspection Incomplete                            | Part Incorrect   | Weld                            |              |              |  |  |
| Crushed/Crimped.             |         |      |   | Burrs  | Instructions Incomplete/Unclear                  | Part Lost/Missing  | Wrong Stock Pulled              |              |              |  |  |
| Cuffs                        |         |      |   | Contamination  | Maintenance                                      | Part Moved   |                                 |              |              |  |  |
| Heat Treat                   |         |      |   | Countersink  | Mislabeled                                       | Positioned Wrong   |                                 |              |              |  |  |
| Inspection Strip in Tube     |         |      |   | Cut Too Short  | Misread  | Power Loss/Surge   |                                 |              |              |  |  |
| Ripples in Bend              |         |      |   | Drill Holes  | Offset   | Other  |                                 |              |              |  |  |
| Torque Waves in Extrusion    |         |      |   | Drawing  | Out of Calibration                               |  |                                 |              |              |  |  |
| Turning Sequence             |         |      |   | Finish   | Out of Sequence                                  |  |                                 |              |              |  |  |
| Wave/Twist in Tube           |         |      |   | Folio  | Outside Dimensions                               |  |                                 |              |              |  |  |

**DART AEROSPACE LTD**

**Work Order:**

93337

**Description:** Shim

**Part Number:** 643.7919

Inspection Dwg: 647.7900 Rev: N/C

Page 1 of 1

# FIRST ARTICLE INSPECTION CHECKLIST

**Measured by:**

Jm

**Audited by:**

15

### Preliminary Approval:

Date: 12-11-25

Date: 12/11/26

Date:

1. MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4

2. FINISH: ANODIZE PER MIL STD-A-8625, TYPE III, CLASS 2, COLOR BLACK;

CARDINAL 4860-50 PRETREATMENT PRIMER  
PRIME IAW MIL-P-23377J TYPE I CLASS N

3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120

B

C

D

NOTES:

1. MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4

2. FINISH: ANODIZE PER MIL STD-A-8625, TYPE III, CLASS 2, COLOR BLACK;  
CARDINAL 4860-50 PRETREATMENT PRIMER  
PRIME IAW MIL-P-23377J TYPE I CLASS N

3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120

| ITEM | DESCRIPTION | QTY | REV |
|------|-------------|-----|-----|
| 1    | SHIM        | 1   | A   |
| 2    | BRACKET     | 1   | A   |

1. 10 COPY

2. 100 COPY

3. 1000 COPY

4. 10000 COPY

5. 100000 COPY

6. 1000000 COPY

7. 10000000 COPY

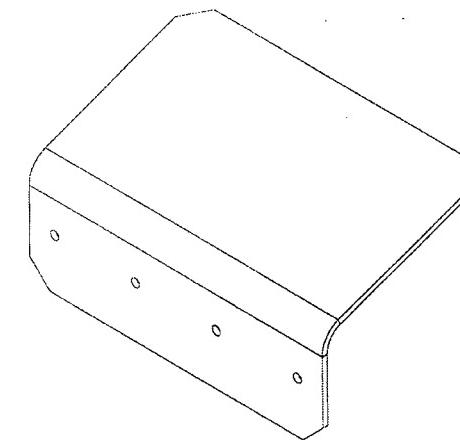
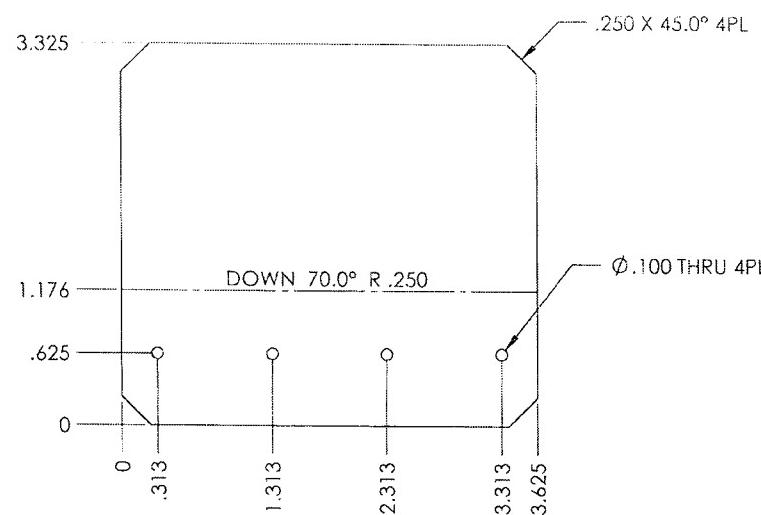
93337 MLJ

(2-11-16)

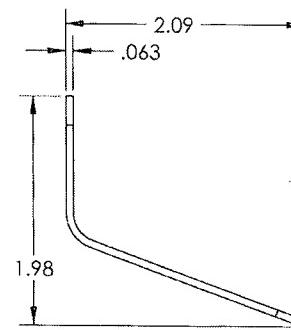
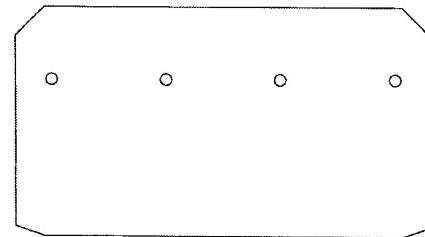
| QTY        | P/N | PART #   | DESCRIPTION   | MATL | SPEC |
|------------|-----|----------|---------------|------|------|
| PARTS LIST |     |          |               |      |      |
| 1          |     | 647.7919 | SHIM          |      |      |
|            |     | 647.7918 | BRACKET       |      |      |
|            |     | 647.7917 | BRACKET       |      |      |
|            |     | 647.7916 | BRACKET       |      |      |
|            |     | 647.7915 | BRACKET       |      |      |
|            |     | 647.7914 | BRACKET       |      |      |
|            |     | 647.7913 | DOUBLER       |      |      |
|            |     | 647.7912 | CLIP          |      |      |
|            |     | 647.7911 | BRACKET       |      |      |
|            |     | 647.7910 | ANGLE BRACKET |      |      |

|               |  |   |
|---------------|--|---|
| NEXT ASSY (3) | SPC/DATE<br>DRAWN BY<br>E. ANDERSON P. BRAVO<br>DEBRIEFED AND APPROVED<br>1/13/2016<br>PRINTED NO.                   | APICAL INDUSTRIES<br>2608 MAPLE HEIGHTS DR.<br>OCEANSIDE, CA 92056-3512 (760)724-5300<br>B3 |
|               |  | SHEET METAL   |
|               | WIRELESS CHIPPER SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE .01<br>EDGE DEBURRING IS .01<br>ANGLES ± 1° | REV<br>B 07M16 DWG. NO. 647.7900 N/C<br>SCALE NONE SHEET 1 OF 9                             |

93337



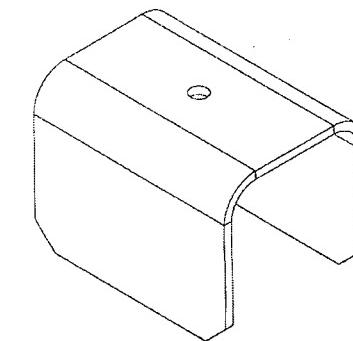
647.7910



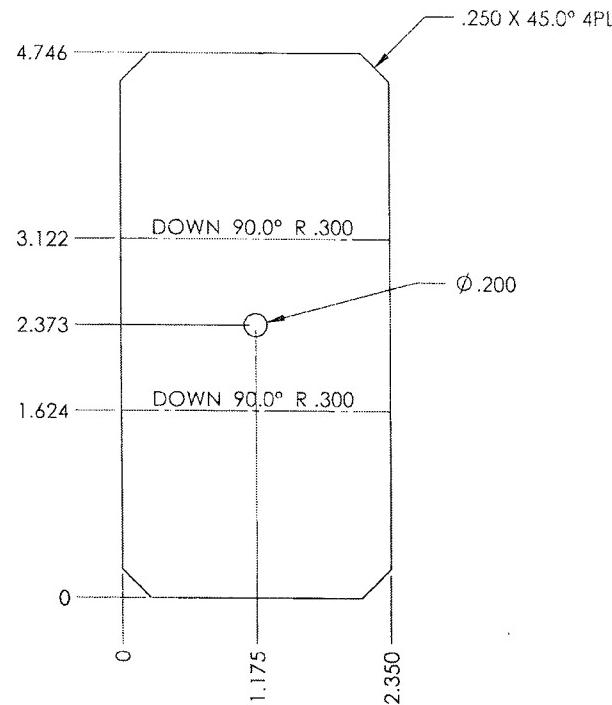
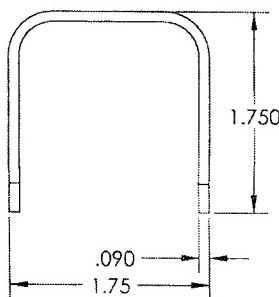
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|--|--------------------------|-------------------------|---|
| ORIGINAL DATE<br>10/20/01  | REVISED DATE<br>11/20/01 | APICAL INDUSTRIES       |   |
| DRAWN BY<br>E ANDERSON   | CHECKED<br>P BRAVO       | 260B TEMPLE HEIGHTS DR. | OCEANSIDE, CA. 92356-3512 (760)724-5300 |
| DRAWING APPROVAL<br>P BRAVO  |                          |                         |   |
| CONTRACT #   |                          |                         |   |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE .010<br>3 PLACE DECIMALS \$0.01<br>1 PLACE DECIMALS +005<br>ANGLES ± 3° |                          |                         |   |
| SERIAL CODE<br>07MZ6   | DWG. NO<br>647.7900      | REV<br>N/C              | SCALE: NONE                             |
| SHEET 1 OF 9   |                          |                         |   |

93337

|  |  |  |  |
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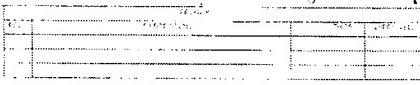
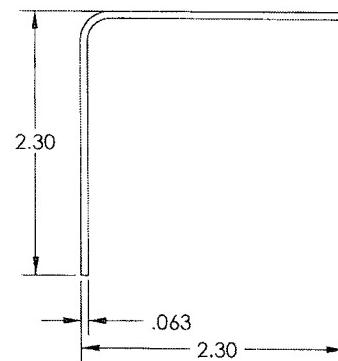
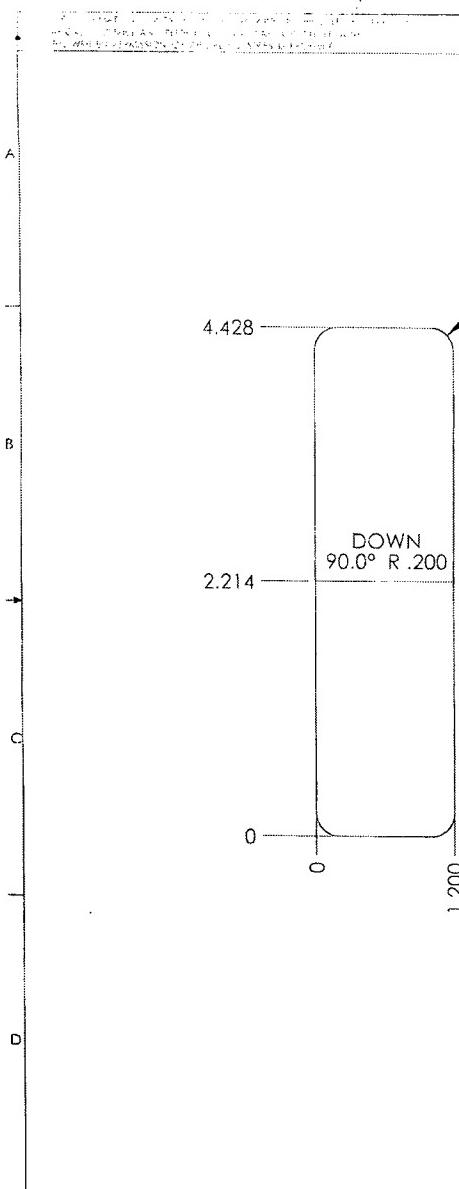


647.7911



|   |   |
|---|---|
| CIRCUIT DATE<br>MO.DA.MS 1-23-09  | APICAL INDUSTRIES<br>2609 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760)724-5300 |
| DESIGNER: P. BRAVO  | SHEET METAL   |
| F. APPROVAL: P. BRAVO   |   |
| DRAWING APPROVAL:<br>P. BRAVO   |   |
| COMPONENT NO.   |   |
| UNLESS OTHERWISE SPECIFIED<br>DRAWINGS ARE IN INCHES<br>TOLERANCES AS PER<br>ASME Y14.5M-1994<br>3 PLACES FOR LENGTHS & DIMS<br>ANGLES ± 3° | SEE PAGE CODE B 07M26 REV. NO. 647.7900 REV N/C<br>SCALE: NONE SHEET 3 OF 9             |

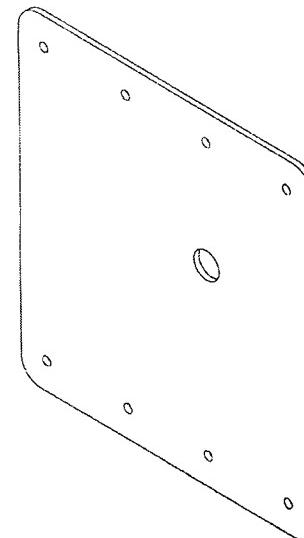
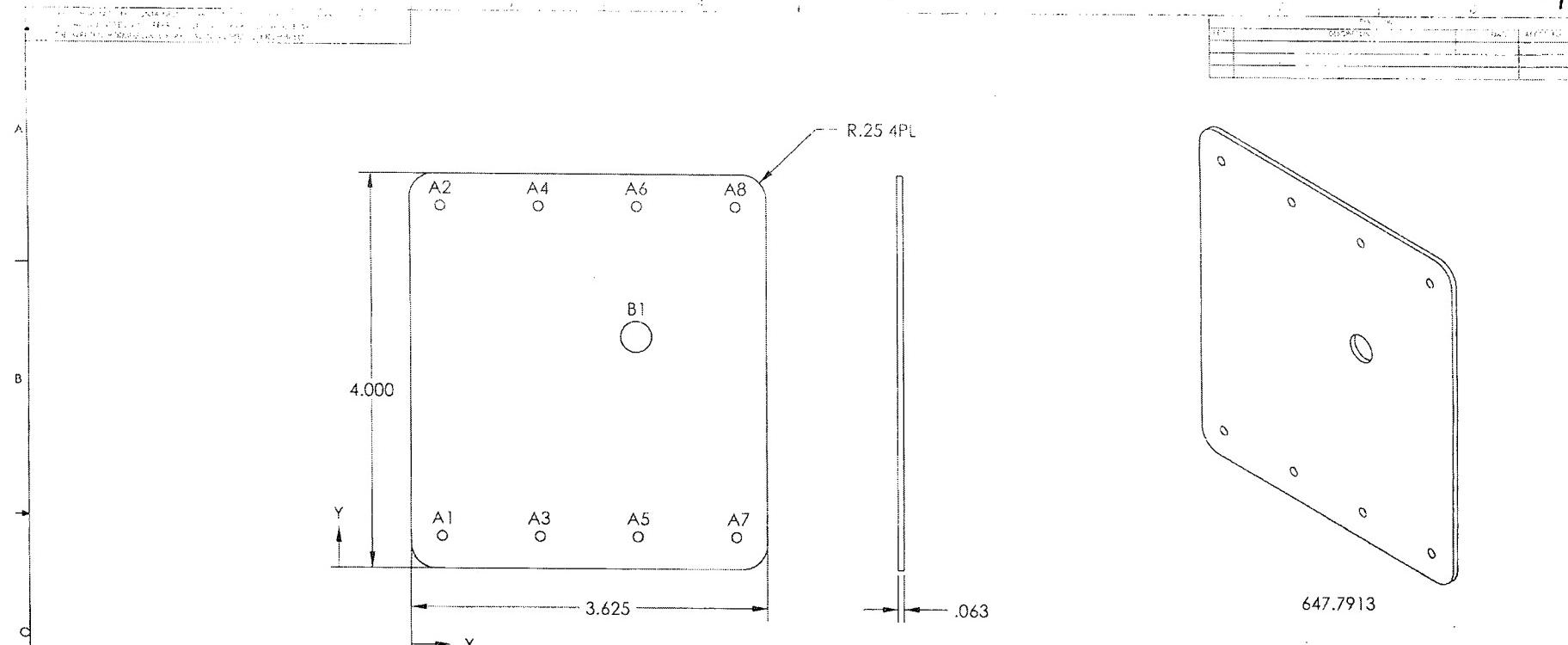
93337



647.7912

|                            |   |
|----------------------------|---|
| CHIEF CRAFTS:              | APICAL INDUSTRIES                       |
| MANUFACTURE DATE:          | 2608 TEMPLE HEIGHTS DR.                 |
| DRAWN BY:                  | OCEANSIDE, CA. 92056-3512 (760)724-5300 |
| SUPERVISOR:                |   |
| CHECKED BY:                |   |
| APPROVED BY:               |   |
| PRINTED BY:                |   |
| PRINTED DATE:              |   |
| COMPACT NO:                |   |
| UNLESS OTHERWISE SPECIFIED |   |
| DIMENSIONS ARE IN INCHES   |   |
| TOLERANCES ARE             |   |
| 2 PLACES DECIMALS ±0.01    |   |
| 1 PLACE DECIMALS ±0.05     |   |
| ANGLES ±3°                 |   |
| SEE CAGE CODE:             | DRAW. NO:                               |
| B 07M26                    | 647.7900                                |
| SCALE:                     | REV:                                    |
| NONE                       | N/C                                     |
| SHEET 4 OF 9               |   |

93338

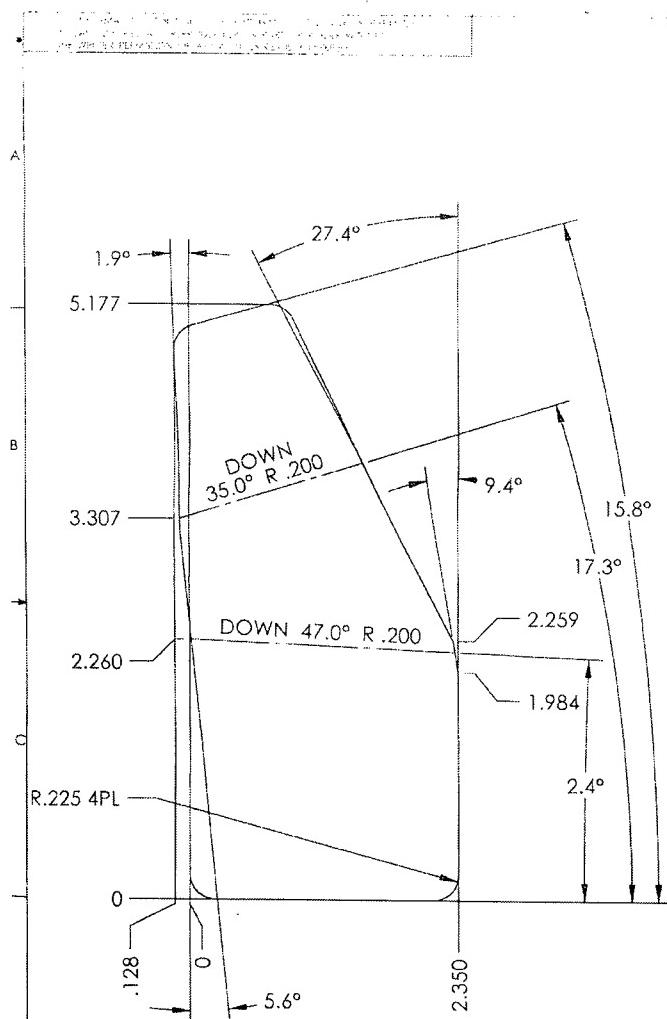


647.7913

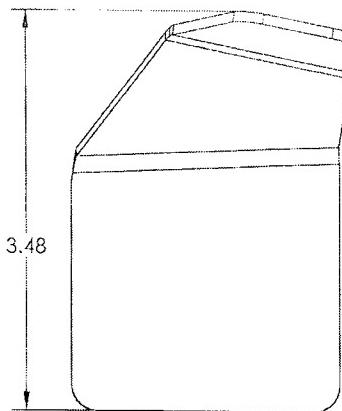
| TAG | X LOC      | Y LOC      | SIZE  |
|-----|------------|------------|-------|
| A1  | .313±.002  | .325±.002  | Ø.100 |
| A2  | .313±.002  | 3.675±.002 | Ø.100 |
| A3  | .313±.002  | .325±.002  | Ø.100 |
| A4  | .313±.002  | 3.675±.002 | Ø.100 |
| A5  | 2.313±.002 | .325±.002  | Ø.100 |
| A6  | 2.313±.002 | 3.675±.002 | Ø.100 |
| A7  | 3.313±.002 | .325±.002  | Ø.100 |
| A8  | 3.313±.002 | 3.675±.002 | Ø.100 |
| B1  | 2.300±.002 | 2.350±.002 | Ø.313 |

|   |   |   |
|---|---|---|
| OPTIONAL DATE<br>10/10/09   | APPLICANT / SIGNER<br>E. ANDERSON / BRAVO | APICAL INDUSTRIES<br>2408 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760)724-5300 |
| DRAWING APPROVAL<br>P.L.O.  | CONTRACT NO.                              | SHEET METAL   |
| UNLESS OTHERWISE STATED<br>ALL DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE<br>1 PLACE FOR .010 & UP<br>2 PLACES FOR .0015 & UP<br>3 PLACES FOR .0005 & UP<br>ANGLES ± 5° | REV N/C                                   | REF N/C   |
| SCALE NONE  | DATE 07M26                                | DOC NO 647.7900   |

93337



### FLAT PATTERN

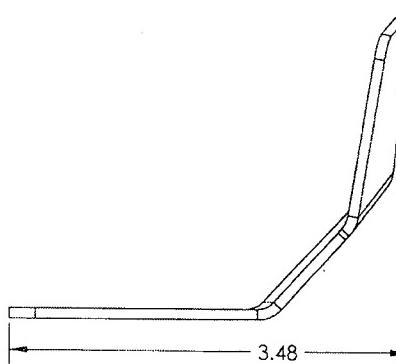


A technical line drawing of a tapered metal component. The top edge has a dimension of .090 indicated by a horizontal arrow and a vertical dimension line. The bottom edge is straight and has a dimension of 2.47 indicated by a horizontal arrow and a vertical dimension line. The side profile shows a gradual taper from the base to the top. A vertical dimension line on the right indicates a total height of 2.6 from the base to the top edge.

647.7914 SHOWN  
647.7915 OPPOSITE



647.7914  
647.7915 OPPOSITE

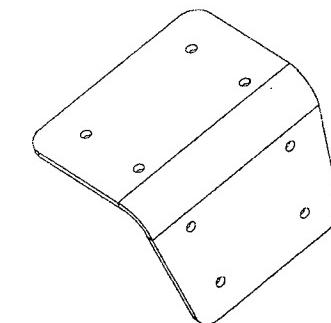
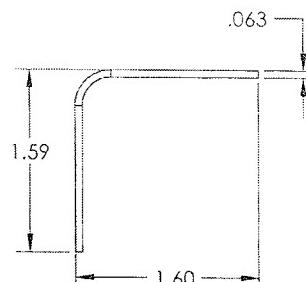
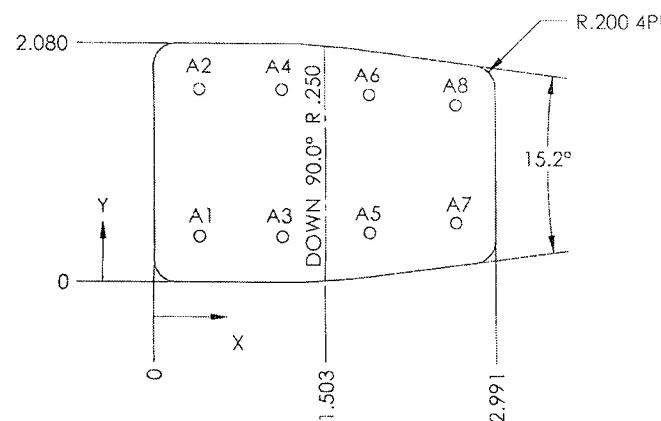


|  |  |             |      |
|--|--|-------------|------|
| ORIGINATOR DATE<br>11/24/05  | APICAL INDUSTRIES  |             |      |
| REF ID#<br>E ANDERSON / C BRAVO  | 2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA, 92056-3512 (760)724-5300 |             |      |
| DRAWING APPROVAL<br>H. BROWN<br>11/24/05   | SHEET METAL  |             |      |
| CONTRACTING  |  |             |      |
| UNLESS OTHERWISE SPECIFIED<br>ALL DIMENSIONS IN INCHES<br>EXCEPT WHERE NOTED<br>1" BLACK CHECKERS 24GA<br>1/8" THICKNESS 24GA<br>1/4" GAGES 24GA |  |             |      |
| SDN  | CASE CODE  | PROJ. NO.   | REV. |
| B  | B 07M6   | 647.7900    | 14/C |
| SCALE NONE   |  | SHIFT A/E 9 |      |

93337

|           |
|-----------|
| REVISIONS |
| DATE      |
| INITIALS  |

|           |
|-----------|
| REVISIONS |
| DATE      |
| INITIALS  |



647.7916

## FLAT PATTERN

| TAG | X LOC      | Y LOC      | SIZE       |
|-----|------------|------------|------------|
| A1  | .400±.002  | .400±.002  | Ø.100 THRU |
| A2  | .400±.002  | 1.680±.002 | Ø.100 THRU |
| A3  | 1.125±.002 | .400±.002  | Ø.100 THRU |
| A4  | 1.125±.002 | 1.680±.002 | Ø.100 THRU |
| A5  | 1.891±.002 | .440±.002  | Ø.100 THRU |
| A6  | 1.891±.002 | 1.640±.002 | Ø.100 THRU |
| A7  | 2.646±.002 | .528±.002  | Ø.100 THRU |
| A8  | 2.646±.002 | 1.553±.002 | Ø.100 THRU |

|                            |           |
|----------------------------|-----------|
| ORIGINAL DATE              | 12-20-05  |
| DRAWN BY                   | CHIEF CDR |
| APPROVED BY                | P. BRAVO  |
| DESIGN APPROVAL            | P. BRAVO  |
| CONTRACT NO.               |           |
| UNLESS OTHERWISE SPECIFIED |           |
| ALL PARTS ARE              |           |
| 2 PLACE DECIMALS ±00       |           |
| 3 PLACE DECIMALS ±000      |           |
| ANGLES ± 3°                |           |

APICAL INDUSTRIES  
2608 TEMPLE HEIGHTS DR.  
OCEANSIDE, CA. 92356-3512 (760)724-5300

SHEET METAL

SET CAGE CODE D/C. NO. 647.7900 REV. N/C  
B C/M26 SHEET 7 OF 9

SFT

CAGE CODE

D/C. NO.

647.7900

REV.

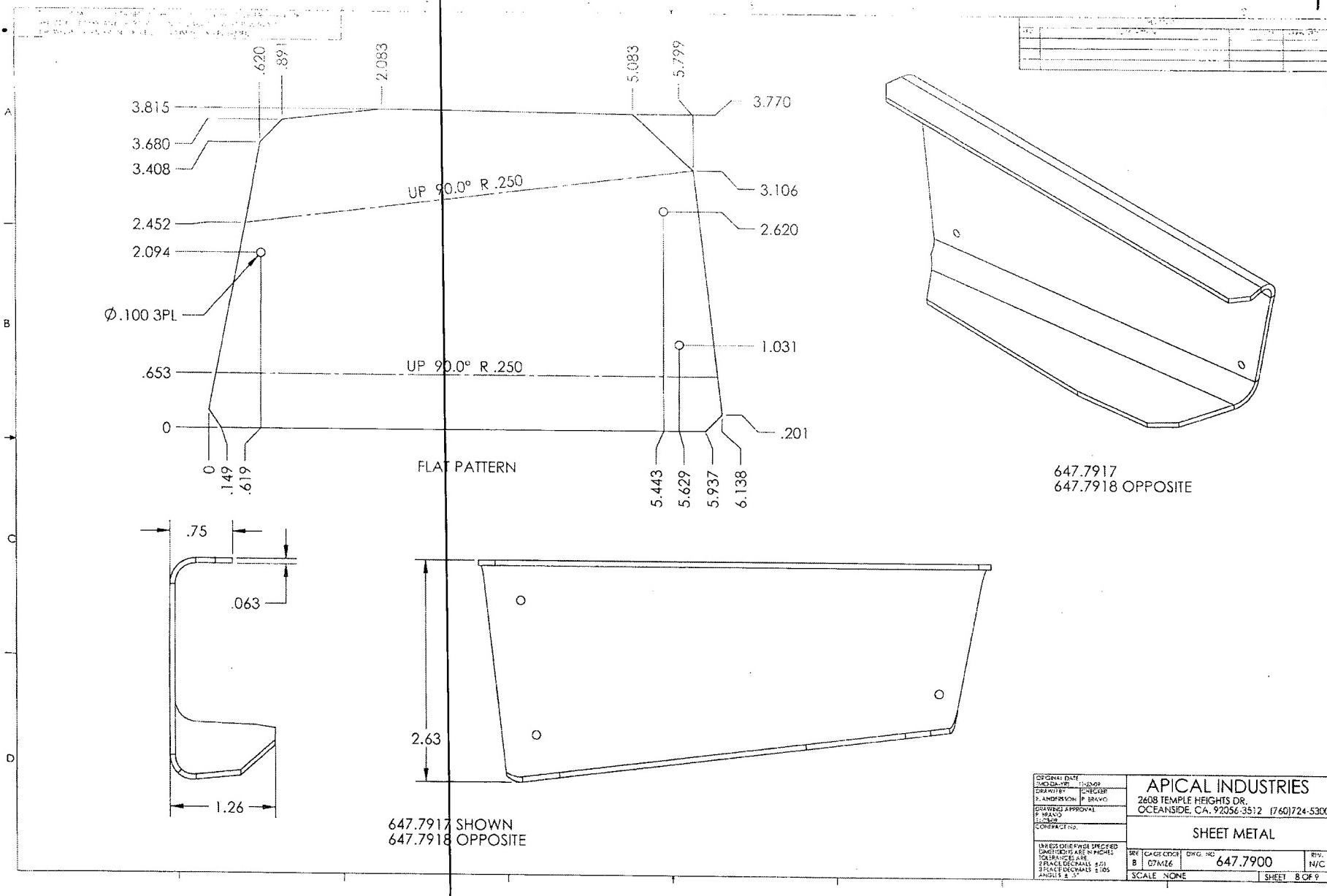
N/C

SCALE

NONE

SHEET 7 OF 9

93332



93337

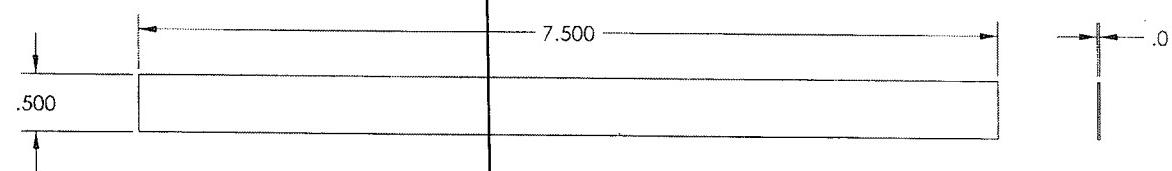


A

B

C

D



647.7919

|   |                         |                        |
|---|-------------------------|------------------------|
| ORIGINAL DATE<br>2008-01-11 11:23:09  | DRAWN BY<br>L. ANDERSON | CHECKED BY<br>P. BRAVO |
| PRINTING APPROVAL:<br>P. BRAVO<br>C. VILLELLA<br>C. VILLELLA  |                         |                        |
| UNLESS OTHERWISE SPECIFIED,<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE IN INCHES<br>1 PLACE DECIMALS ±0.1<br>2 PLACES DECIMALS ±0.01<br>ANGLES ±3° |                         |                        |
| SIZE<br>B   | CAGE CODE<br>07M26      | DWG. NO.<br>647.7900   |
| SCALE<br>NONE   |                         | P/E.<br>N/C            |
| SHEET<br>9 OF 9   |                         |                        |

**APICAL INDUSTRIES**  
2608 TEMPLE HEIGHTS DR.  
OCEANSIDE, CA. 92054-3512 (760)724-5300

**SHEET METAL**



A.T.G. Industries Inc.  
731, rue Industrielle Rd.  
PLATING DEPARTMENT  
Rockland, On K4K 1T2  
Canada  
Ph: (613) 446-4544  
Fax: (613) 446-4556

### Pack List

Number: 62107

Date: 12-Dec-12

To

DART AEROSPACE LTD.  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ship To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

| Terms    |  | Ship Via   |
|----------|--|--|
|          |  |  |
| Quantity | Description  | Rev:   |
| 1<br>lot | Part: ASST<br><br>8 PCS 647.1610<br>5 PCS 647.1612<br>2 PCS 647.1713<br>6 PCS 647.1811<br>1 PC 647.1816<br>1 PC 647.1817<br>8 PCS 647.1818<br>11 PCS 646.3210<br>20 PCS 646.3313<br>10 PCS 646.3717<br>20 PCS 646.3717<br>16 PCS 647.4610<br>10 PCS 649.4811<br>10 PCS 649.4812<br>24 PCS 649.4814<br>30 PCS 649.4815<br>6 PCS 647.7913<br>3 PCS 647.7919<br>10 PCS 647.9010<br>10 PCS 647.9011<br>15 PCS 647.9012<br>40 PCS 647.9013<br>60 PCS 646.9710<br><br>HARD ANODIZE BLACK<br>MIL-A-8625 TYPE III CLASS 2<br>Job: 20120768 |  |
|          | PO: PO18506  | Line:  |
|          | Certificate of Conformance<br><br>A.T.G. Industries certifies that all items in this shipment are in conformance<br>with all requirements, specifications and drawings referenced in the purchase order.   |  |
|          | ISO 9001 : 2008 REGISTERED<br>ATG SALES-2010 TERMS APPLY   |  |
|          | DATE: <u>12/12/12</u>  |  |



A.T.G. Industries Inc.  
731, rue Industrielle Rd.  
PLATING DEPARTMENT  
Rockland, On K4K 1T2  
Canada  
Ph: (613) 446-4544  
Fax: (613) 446-4556

### Pack List

Number: 62107

Date: 12-Dec-12

To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ship To

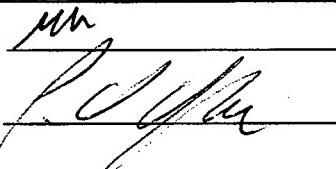
DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

| Terms    | Ship Via  |
|----------|---|
|          |   |
| Quantity | Description   |
|          | CERTIFIED SIGNATURE: <br>RECEIVER SIGNATURE:  |